

What is claimed is:

1. A method of interactively displaying records and their associated attributes, comprising:

defining a set of graphic images, wherein each graphic image represents a range of values;

generating a first surface map with (1) graphic images, representing attributes associated with the records, arranged along a first dimension, and (2) records, represented by a collection of graphic images, arranged along a second dimension;

receiving input from a user selecting a record from the first surface map; and altering a visual representation of the record in another view.

2. The method of claim 1, wherein the graphic images are color-coded blocks.

3. The method of claim 1, wherein the another view is a galaxy view of clusters of records.

4. The method of claim 1, wherein the records are ordered into groups.

5. The method of claim 4, wherein the groups are ordered based on statistical correlation.

6. The method of claim 1, wherein the order of display of the attributes associated with the records is based on statistical correlation.

7. The method of claim 1, wherein the order of display of the attributes associated with the records is based on cluster analysis

8. The method of claim 1, further comprising analyzing an index to determine if the record is shown in another view.

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LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT
& DUNNER, L.L.P.

STANFORD RESEARCH PARK
700 HANSEN WAY
PALO ALTO, CALIF. 94304
650-849-8600

9. The method of claim 1, further comprising generating a dendogram to indicate relationships between records.

10. The method of claim 1, further comprising:

determining a text-based identification of the record represented in the selected portion of the first surface map; and
displaying the text-based identification.

11. The method of claim 1, further comprising:

generating a second surface map, wherein the second surface map is a reduced-size view that corresponds to the first surface map and that shows all records and graphic images representing associated attributes; and

highlighting on the second surface map the records currently being shown on the first surface map.

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FINNEGAN, HENDERSON,
FARABOW, GARRETT
& DUNNER, L.L.P.
STANFORD RESEARCH PARK
700 HANSEN WAY
PALO ALTO, CALIF. 94304
650-849-6600

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12. A computer-implemented method of interactively displaying records and their corresponding attributes, comprising:

- providing a surface map representing a set of records;
- linking the surface map to a set of views;
- receiving an input signal selecting a portion of the surface map; and
- indicating, in a view linked to the surface map, at least one of the records corresponding to the selected portion.

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13. A method of interactively displaying records and their corresponding attributes, comprising:

defining a set of graphic images, wherein each graphic image represents a range of values;

generating a three-dimensional surface map with (1) records arranged along a first dimension, (2) graphic images, representing attributes associated with the records, arranged along a second dimension, and (3) the values associated with the attributes arranged along a third dimension;

receiving input from a user selecting a record on the surface map;

analyzing an index to determine if the record is shown in another view; and

altering the visual representation of the record in the other view based on the input, when the record is shown in another view.

14. The method of claim 13, wherein the three-dimensional surface map may be rotated in any of the three dimensions.

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FINNEGAN, HENDERSON,
FARABOW, GARRETT
& DUNNER, L.L.P.

STANFORD RESEARCH PARK
700 HANSEN WAY
PALO ALTO, CALIF. 94304
650-849-6600

15. A method of interactively displaying records and their associated attributes, comprising:

selecting a set of records and their associated attributes, wherein the associated attributes are any combination of numeric, categoric, sequence, and text information;

5 converting the associated attributes into numeric values;

defining a set of graphic images, wherein each graphic image represents a range of numeric values; and

10 generating a surface map with the set of records arranged along a first dimension and graphic images, representing attributes associated with the records, arranged along a second dimension.

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FINNEGAN, HENDERSON,
FARABOW, GARRETT
& DUNNER, L.L.P.

STANFORD RESEARCH PARK
700 HANSEN WAY
PALO ALTO, CALIF. 94304
650-849-6600

16. An apparatus for interactively displaying records and their associated attributes, comprising:

at least one memory having program instructions, and
at least one processor configured to execute the program instructions to perform the operations of:

5 defining a set of graphic images, wherein each graphic image represents a range of values;

generating a first surface map with records arranged along a first dimension and graphic images, representing attributes associated with the records, arranged along a second dimension;

10 receiving input from a user selecting a record on the surface map;

analyzing an index to determine if the record is shown in another view; and

15 altering the visual representation of the record in the another view based on the input, when the record is shown in another view.

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FINNEGAN, HENDERSON,
FARABOW, GARRETT
& DUNNER, L.L.P.

STANFORD RESEARCH PARK
700 HANSEN WAY
PALO ALTO, CALIF. 94304
650-849-6600

17. An apparatus for interactively displaying records and their associated attributes, comprising:

means for defining a set of graphic images, wherein each graphic image represents a range of values;

means for generating a first surface map with records arranged along a first dimension and graphic images, representing attributes associated with the records, arranged along a second dimension;

means for receiving input from a user selecting a record on the surface map;

means for analyzing an index to determine if the record is shown in another view; and

means for altering the visual representation of the record in the another view based on the input, when the record is shown in another view.

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FINNEGAN, HENDERSON,
FARABOW, GARRETT
& DUNNER, L.L.P.

STANFORD RESEARCH PARK
700 HANSEN WAY
PALO ALTO, CALIF. 94304
650-849-6600

18. A computer-readable medium containing instructions for controlling a computer system to perform a method for interactively displaying records and their associated attributes, the method comprising:

5 selecting a set of records and their associated attributes, wherein the associated attributes are any combination of numeric, categoric, sequence, and text information;

converting the associated attributes into numeric values;

defining a set of graphic images, wherein each graphic image represents a range of numeric values; and

10 generating a surface map with the set of records arranged along a first dimension and graphic images, representing attributes associated with the records, arranged along a second dimension.

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FINNEGAN, HENDERSON,
FARABOW, GARRETT
& DUNNER, L. L. P.
STANFORD RESEARCH PARK
700 HANSEN WAY
PALO ALTO, CALIF. 94304
650-849-6600